# BCN "Retreat" 7/28/2010

# **Introductions** (Attendees)

Tim Schell (Waunakee Schools, K12), Ed Meachen (UW), Tom Taibl (AT&T), Marge Jeffers (WADEN), Joan Wade (CESA), Jon-Mark Bolthouse (SC Library System), Stef Morrill (SCLS), Steve Plattiter (Mid Wisconsin Fed. Library System), Paul Onufrak (Eastern Shores Library System), Mike Mietz (DOA DET), Connie Bandt (DOA DET), Bill Schultz (WAICU), Paul Nelson (WAICU), Oskar Anderson (DOA DET), Bob Bocher (DPI), Diane Kohn (DOA DET), Tara Baxter (DOA TEACH), Michael Kessenich (DOA TEACH), Matthew Rains (DOJ), Jay Jaeger (DOT)

# **Review of Current BCN Network Environment**

Customer base (in order discussed)

### State agencies (increasing)

Increasing video conferencing, long-session video conferencing, HD Increasing sites and bandwidth

Stored Video

**Training** 

More data needs (e.g. DOT RealID, DL photo access)

Voice over IP

Data along with voice conferencing

Need more bandwidth, but cost is limiting growth

Hosted services / cloud computing

Some pent up wireless demand for field work

Some use of alternative connections (Cable, DSL)

# <u>Library Systems</u> (pent up / latent demand)

Data is primary use, limited video

SCLS uses WiscNet to Portage County

Often go outside BCN for additional Internet bandwidth (about 1/2)

Segregate business, internet due to bandwidth constraints

# End customer Internet access

Most offer some level of patron wireless access

Customers want to use Skype, etc.

Sometimes restrict access with policy to manage bandwidth

Bandwidth still limited, but usage increasing Funding challenges HPLL (High Priority Low Latency) has helped

More digital content: Audio, eBooks, newspaper / magazine web sites External providers of digital content, but with system Interconnection

Externally hosting for business systems

### Aggregation

Connections to headquarters

Bandwidth to handle aggregate traffic

Libraries evolving into community center role

# <u>Distance education network consortia</u> (WADEN) (increasing)

Increasing portable classrooms, more use for meetings Blended learning: Moodle, email, web as well as video Interest in stored video presentation

# K-12 / TEACH (increasing, large appetite)

Increasing portable classrooms / customer managed video
User managed HD
Shared classes, particularly among smaller districts
Especially for upper level elective courses
More interactive / digital media for instruction

#### Hosted services

Hosted administrative systems (financial, classroom mgmt) Web sites Office knowledge systems (Google Docs, MS Live, Gmail, ...) Cloud storage

#### Blended learning

Students need to be exposed to online learning Student computing devices at school and at home

Growth in lower grades as technology permeates society Smaller schools very dependent on support services

#### UW

\$1.2 Million / year on BCN circuits 2 year campuses need 20Mb - 60Mb each

Interactive video

Cross-campus courses

Very high growth, cost of existing contract becoming problematic

Looking at becoming independent of BCN over time

Hope to use grants to increase backbone bandwidth

Currently filling 10Gb just with UW

Look toward a future where bandwidth is not constrained

Will take some time

"Online college"

Most / all courses with video Interactivity with instructors

# Independent Colleges / Universities (WAICU)

"Traditional" data needs

Increasing eLearning, especially for adult education

Libraries share some characteristics with public libraries

Some colleges left BCN, but hope to bring them back

Purchase of supplemental bandwidth, much like libraries

# Cities / Counties (approximately 20)

May increase for access to video service

Shared applications picking up (e.g. 911 support) for cost, redundancy

### Native American Tribes (limited)

Law enforcement (TIME system, via DOJ)

(Did I miss one?)

Overall: Growth is faster than linear

Growth not coming from fixed 1x3 distance ed. Very much

Coming from portable video

Coming from digital media

Coming from hosted services

Wireless is growing exponentially

Plea for vendors to be visionary

#### **Services**

Data

Managed Video

Scheduling

Partly funded from BCN income

Partly funded within DOA (located at WITC)

User managed video

Turnkey aspect is very valuable

Potential for scheduling (apart from managed video)

Wireless

Not in present contract

Stored Video

GigaMadMAN (not part of BCN proper)

#### **Providers**

Vendor perspective

WBAA consortium for access circuits

Cisco, Polycom, Dascom primary partners

Network and Video management

Health information exchange (e.g. Covascent) possible new constituent Public vs. private entity issue might require legislative change.

Contract is set up to grow core and aggregation to meet tail circuit demand

#### **Incoming Administration Briefing Information**

Report out by customer group (in order discussed)

#### **Agencies**

Data / bandwidth is primary need

Driven by services to citizens over the Internet / self service

Driven by internal operations (particularly remote locations)

Conferencing

Partner networks (e.g. TIME)

### **Public Libraries**

Tax supported internet access for those without their own (40%)

Online job applications

Computer skill training

Digitized local content

Transition to digital media

Transition to community centers

Library system aggregates support for individual libraries

#### Recession drives increased usage

#### K12 / WADEN / WAICU

Bandwidth always needed driven by a number of applications

Video conferencing: Managed vs. unmanged / growth in unmanaged

# students, # courses increasing

Particular constituencies and needs

Cloud computing / hosted solutions

Evolving media

### <u>DOA</u>

Bureaucratic process, but involves dynamic services: not a good match

More regular comparison of needs and services

Model: postalization

High level infrastructure, locations, reliability

Issues to watch going forward

#### SEND SUMMARIES TO MAILING LIST BY AUGUST 6

# History

History is not considered critical, though perhaps there could be links to Important historical documents, references to legislation, etc.

#### **Scope** (how much detail)

Why this is a "big deal":

Shorter initial document, maybe a couple of pages

Include funding / financial / pricing model description

Statewide coverage philosophy, consistent service, postalization

Compare / contrast to other states (particularly libraries)

Success factors: involvement, grass roots

Post information on sharepoint (transition folder) - background / reference info

Describe influence / impact

Maybe business case / opportunities

In the past delivered to legislators as well as transition team

Refer to PSC map

Futures: Future next gen network

# Timeline to develop briefing

Perhaps draft by September meeting

# **Lunch**

# **Long Term Needs from the Customer Perspective**

(See earlier discussions regarding needs and growth)

Increasing bandwidth needs is a common theme

Should we have different tiering based on availability, level of management service Service models: Managed vs. pass-thru vs. just provisioning / unmanaged services Interstate connections (e.g. to Minnesota) are increasing.

What changes do we see coming from a service perspective (in order discussed)

#### UW

Focus on Internet

Campuses view UW Madison as a "cloud" center

Multi-state research and instruction

e.g. MERIT grant in Michigan U.P. to Green Bay

e.g. Western Wisconsin / Minneapolis

e.g. Internet2 bandwidth increases

Course Management systems, centrally administered

"eCollege approach"

Network now core to mission

Some campus locations may move away from BCN

WiscNet charges by size of institution

#### K12

Increasing bandwidth is important - makes dramatic change possible Sharing of applications and other resources

Wireless, "1 to 1 computing", access at home as well as school

Changed approaches to assessment: online testing

Longitudinal (long term) data system - information on students Smartphone revolution

Diversity of platforms causes issues

Could the state help coordinate plans / educational subsidy?

Video service continues to be important

#### **Distance Learning**

Existing stable fixed video will continue, move to HD

Blending learning will increase demand

Digital content: storage capacity and bandwidth

Centralized course management, to help improve integration

#### **Library Systems**

Bandwidth (affordable)

Limited, essentially fixed funding ("fixed income")

Equipment cost and need to replace to leverage bandwidth

Licensing, copyright, DMCA could be an issue that results from Increased bandwidth

VoIP by customers (e.g. Skype)

Cloud / hosted computing

Wireless as a need and as a factor driving customers to library

Move to digital media and streaming model

Content creation - the kitchen, not just the grocery store

Contract bureaucratic processes too slow to react

Five year contract period is too long

#### **DPI / K12**

More options for bandwidth management, dynamic changes (daily, weekly)

Community Area Networks for public sector organizations

# **Agencies**

More devices and types of devices

Existing technologies become more pervasive

Storage cloud (at least at the state agency level)

Customer self-service

Disaster recovery, backup paths

Is fundamental network structure what we need?

Cyber Security

IP V6

#### **Federation**

More federal standards

More sharing among states

PSC Information may help provide background for architecture for next gen Badgernet

#### **Policy and Funding Questions**

Can't really build it ourselves. There are legislative and practical barriers to that. Are there ways to get those who benefit from bandwidth to provide funding? Question of medical health records? Is this really much of an issue? Need a lot of capacity for smaller incremental costs.

# Technology will basically look after itself.

# **Suggestions for Long Term Planning Process**

Defer to September meeting